

Historical Dynamics of Facade Expression and Harmony in The Architecture of Uzbekistan

Salokhutdinova Munavvar Golibqizi

Doctoral student (PhD), Samarkand State University of Architecture and Civil Engineering, Faculty of Architecture, Department of Theory and History of Architecture, Uzbekistan

Received: 25 April 2025; **Accepted:** 21 May 2025; **Published:** 23 June 2025

Abstract: On the basis of theoretical studies devoted to the modular system of proportioning architectural monuments of Uzbekistan, examples of harmonisation of facades of historical buildings are considered. The basic typology of constructive and artistic methods of forming and balancing facade compositions is presented, and the complexity of their shaping is noted. The proposed classification system covers a wide range of ways of proportioning facade elements, which is of value for the professional training of restoration architects. The developed principles can be applied in the practice of harmonisation of facades of architectural monuments.

Keywords: Methods of façade harmonization, consistent system of analysis of façade elements, proportionality of elements, central dominant, symmetry and axial organization, domed drums, ornamental belts, peshtak portal, vaulted and arched niches.

Introduction: The details of building facades are the most important elements of architecture that form the artistic appearance of a structure. In the context of architectural monuments of Uzbekistan, especially those belonging to different epochs, the study of facade elements acquires special relevance. Harmonisation of the appearance of architectural monuments is possible only with a deep understanding of the regularities of composition and interaction of decorative details.

The facades of historical buildings in Uzbekistan are rich in various elements: columns, cornices, portals, ornamented frames, rustics and muqarnas. These elements not only decorate the buildings, but also carry a semantic and constructive load, reflecting the era, regional peculiarities and building traditions. However, the diversity of forms and techniques of decoration makes both restoration practice and general systematisation difficult.

The facade of a building is not only its external shell but a vital carrier of aesthetic, semantic, and structural meaning. In the context of Uzbekistan's architectural heritage, facades serve as a visual narrative of cultural continuity and stylistic evolution. Spanning from the

early medieval period to the 19th century, the facades of historic buildings in Uzbekistan reflect a rich interplay between regional traditions and universal architectural principles. These include modular proportional systems, rhythmic compositions, symbolic ornamentation, and structural articulation.

Despite the abundance and diversity of facade elements—such as portals, domes, muqarnas, ornamental belts, and coloristic schemes—there remains a need for a systematic framework to analyse and classify these features. A unified methodological approach is particularly essential for contemporary architects and restoration specialists aiming to preserve historical integrity while ensuring aesthetic coherence.

This paper aims to examine the principles of facade harmonisation in historical monuments of Uzbekistan based on theoretical studies on modular proportionality. It introduces a typological classification of facade elements and explores their compositional logic, thereby offering a practical foundation for architectural restoration and education. Through this lens, Uzbek architecture is not only preserved but reinterpreted as a harmonious system rooted in mathematical precision, cultural symbolism, and

artistic expression.

Main part

In the absence of a unified classification of architectural elements of historic buildings, it is especially important to develop an approach based on the universal principles of the classical order system. This will allow not only to consider each facade element separately, but also to perceive it as a part of the whole architectural composition. As applied to the architecture of Uzbekistan, such an approach makes it possible to harmoniously integrate details from different style eras - from Timurid architecture to the European influence of the 19th century.

Harmonisation involves developing a systematic view of the architectural heritage, including an analysis of proportions, scale, rhythm and ornamental saturation of facades. It takes into account both the peculiarities of traditional architecture (with its pronounced decorativism and symbolism) and classical order principles that came to the territory of Uzbekistan in the period of colonial and post-colonial construction. Thus, the proposed systematisation of facade details, based on theoretical works on architecture of the XVII-XIX centuries, can become the basis for the development of universal principles of restoration and stylistic analysis of architectural monuments in Uzbekistan. This will allow to ensure architectural

integrity, improve the quality of restoration works and form a harmonious visual environment preserving historical identity. Materials and methods. The first works on identification and survey of the most significant monuments of Central Asian architecture were started at the end of XIX-beginning of XX centuries. The construction of architectural facades of historical monuments is based on the modular grid system[1]. The classical theory is based on the treatises of Rempel L.I., Bulatov, Voronin V.L., Pugachenkov G.A, Voronina, having studied the construction techniques of ancient Central Asia, calculated the proportions of modular relations, with a multiple measure of length 105-110cm. The famous restorer and Central Asian researcher Zasyarkin B.N. noted the presence of modular system in the construction of architectural forms of the caravan shed Rabati Malik Bukhara region [1, p216] Voronin and Ratia established the proportions of architectural forms of madrasah Barak-khan in Tashkent, where the western portal of the courtyard has proportions of the golden section. [2, pp 67-72] G.A. Pugachenkova analysed the construction of the facades of the Gumbaz Manas mausoleum, inscribing it in a grid of semigazov (35cm) established the module of the plan equal to the thickness of the walls of the quadrangle [3, p 125] This value is half the span of the portal vault.

Table 1: Principles of Facade Harmonisation

Principle	Description
Proportionality of elements	Correspondence between the sizes of architectural details and the overall composition
Rhythm	Regular alternation of arches, niches, and ornamentation
Central dominant	Emphasis on the portal as the visual axis of the facade
Symmetry and axial organisation	Strict symmetry or balanced asymmetry
Colour harmony	Interaction of terracotta, azure, and white tones in ceramics and cladding

Harmonisation of architectural monuments in Uzbekistan in the context of the development of architectural form. In domestic and foreign science, the issues of architectural harmony have traditionally been considered in the framework of shaping and

proportioning, but in Uzbekistan, since the late XX - early XXI century, studies aimed at understanding the harmonisation of architectural monuments as one of the fundamental methods of shaping in historical architecture have been increasingly systematically developed. These studies are based on analyses of

façade composition elements, decorative and structural principles, and visual and spatial perception. Like the Russian "theory of architectural forms" of the 19th century, which considered order elements, frames, pediments and balusters, Uzbek studies focus on traditional architectural elements such as aivans, portals (peshtak), arcatures, stalactite muqarnas, and tile decorations, which fulfil not only an aesthetic but also a semantic function. Harmony in architecture is considered not only as a result of geometric proportions, but also as an embodiment of philosophical, spiritual and cultural ideas. Historical-typological approach Studies of the harmonisation of architectural monuments in Uzbekistan are based on historical-typological analysis, where the genesis of façade elements from early medieval Karakhanid forms to mature Timurid and Sheibanid buildings is central. The researchers highlight the evolution of such elements as domed drums, ornamental belts, portal-peshtak, vaulted and arched niches, and also record the principles of their harmonious placement.

METHOD

Methodology of façade harmonisation.

In the process of research, a consistent system of analysing façade elements has been developed, similar to the approach used in the works of Blondels, Gibbs, and Sultanov. First, the elements are classified according to the vertical facade: basement, main volume, and crowning structures. Then each type is considered within stylistic epochs, which allows building a logical and clear typology. In this way, Uzbek architectural monuments are considered not only as cultural artefacts, but also as objects of harmonic composition that are amenable to scientific analysis. Basic principles of harmonisation

The research reveals several principles that determine the harmoniousness of facades:

Proportionality of elements - matching the size of architectural details in the overall composition.

1. Rhythmicity - regular alternation of arches, niches, decoration.
2. Central dominant - the portal as the visual axis of the facade.

3. Symmetry and axial organisation - as a rule, strict, but there are also asymmetrical compositions with preservation of visual balance.

4. Colouristic harmony - interaction of terracotta, azure and white tones, both in ceramics and cladding.

Significance for contemporary design

Contemporary architects and restorers in Uzbekistan look to this heritage as a system of time-tested aesthetic rules that can inspire new forms. The analysis of facade harmonisation is used as a basis for creating contextual architecture integrated into the historic environment. The design of modern buildings utilises elements of the façade composition of monuments, taking into account their harmonious structure.

In the course of the study of facade elements, conducted on the basis of various sources of the XVI - early XX century, a classification of order façade details was compiled. This system made it possible to structure architectural elements, simplify their perception and demonstrate the traditional logic of facade design. A similar methodology can be adapted to the analysis of architectural monuments in Uzbekistan in order to identify patterns of harmonisation of façade compositions.

Comparison of façade articulation systems. Despite the fact that the architectural tradition of Uzbekistan was fundamentally formed on the principles of Oriental and Islamic architecture, some elements of facade design demonstrate a clear structural organisation similar to the canonical order. Horizontal and vertical division, as in European classics, play an important role in creating a harmonious perception of the facade.

RESULTS AND DISCUSSION

Horizontal articulation in the architecture of Uzbek monuments is represented through the elements of podiums, cornices, majolica belts, floor belts and friezes. They set the rhythm and scale, emphasise the main compositional axis. This system is particularly pronounced in the ensembles of Samarkand and Bukhara, where the use of horizontal belts of epigraphy, geometric ornaments and coloured tiles is reminiscent of the Western order system.

Table 2: Classification of Facade Elements

Element Group	Examples
Horizontal elements	Stylobates, marble belts, friezes with arabesques, majolica cornices
Vertical elements	Portals (aiwans), minarets, niche compositions,

Element Group	Examples
	columns and pylons
Wall treatment	surface Terracotta carving, sgraffito, majolica, ganch, mosaics
Upper terminations	Domes, portal pediments, tracery parapets
Window and door openings	Patterned lattices (panjara), arched and rectangular frames, stalactite cornices
Balconies and bay windows	Wooden oriel windows framed with carved columns
Additional elements	Gates, wickets

The vertical division is achieved by high portals, minarets, columns with mosaic covering, which accentuate the entrance group and visually pull the volume upwards. This creates a sense of lightness and aspiration, similar to the effect achieved by order columns and pilasters.

Classification of facade elements of monuments of Uzbekistan On the basis of the previously proposed classification of facade elements, it is possible to conditionally categorise the architectural details of monuments of Uzbekistan into the following groups:

1. Horizontal elements: stylobates, marble belts, friezes with arabesques, crowning cornices of majolica.

2. Vertical elements: portals (ivans), minarets, niche compositions, columns and pylons.

3. wall surface treatment: terracotta carving, sgraffito, majolica, ganch, mosaics.

4. Top finishes: domes, portal pediments, parapets with tracery.

5. Window and door openings: patterned lattices (panjara), arched and rectangular frames, stalactite cornices.

6. Balconies and bay windows (in residential architecture): wooden quoins framed with carved columns.

7. Additional elements: gates, wickets,

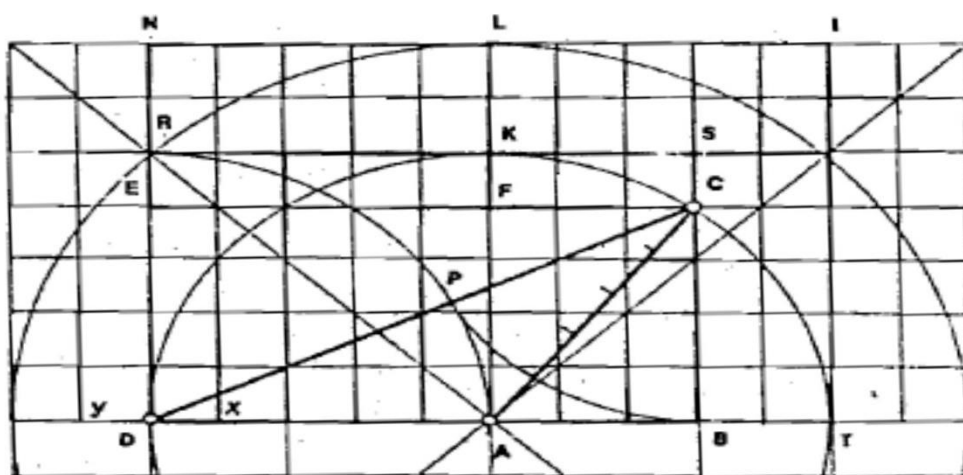


Fig 1. graph developed by Kryukov K.S. Canon of proportionality

CONCLUSIONS

The logic of transition from simple to complex forms. As in classical architecture, in the monuments of Uzbekistan one can trace the complication of forms: from simple, utilitarian to more ornamented and symbolically rich. For example, a portal may be presented as a simple arch with a frame or as a multi-level composition with mosaics, inscriptions, columns and stalactites. Windows can range from small frameless openings to decorative niches with panjars and stalactite frames.

Harmonisation through structure. Thus, the use of such a classification allows us to speak of the façade as an integral system where each element participates in creating visual harmony. In Uzbek architecture, harmony is achieved through rhythm, symmetry, colour gradations, plasticity of forms and subtle work with ornamentation. However, the systematic approach to facade division, traceable in the order theory, allows for a deeper understanding of the architectural logic of traditional Uzbek buildings and their aesthetic integrity.

REFERENCES

Vignola, The Rule of Order in Architecture (Izd-vo All-Union Academy of Architecture, Moscow, 1939)

A. Palladio, Four Books of Architecture (Kupfertafen, London, 1738) <http://www.e-rara.ch/zut/content/titleinfo/3982323>.

3 N. Sultanov, Theory of Architectural Forms (Moscow, 1914)

A. Durov, Architectural Forms. Stone, Brick and Woodworking (Moscow, 1904)

Zasytkin B.N. Fundamentals of the canon of proportions in architecture. - Tashkent, 1982.

Zasytkin B.N. Monuments of architecture of Central Asia and their restoration. - Collected Works. "Questions of Restoration, vol. 1. M., 1962.

Zasytkin B.N. Architectural Monuments of Termez District. - Collected Works. "Culture of the East", M., 1928.

Zasytkin B.N. Architectural monuments of Central Asia. - Collected Works. "Questions of Restoration". Tash., M., 1928.

Davydov E.A. Materials on metrology of medieval Central Asia. - M., 1970.

Denike B.P. Architectural ornament of Central Asia. - M.-L., 1939.

Davidovich M.M. Archaeological works in the lower reaches of the Kafirnigan (Kabadan) River (1950-1951). - MIA. VOL.37. - M., 1953.